NPDES Permit Writers' Manual: Inclusion of Climate Change Considerations

Section 5.2.2.7: Apply Additional Regulatory Considerations in Calculating TBELs

Thermal Discharge—CWA Section 316(a) Variance

Evaluation of requests for variances under CWA section 316(a) requires consideration of the change to the ambient water temperature because of an effluent discharge. The studies provided by applicants to support their requests frequently include historical thermal data for the receiving water. Permitting authorities should be aware that the effects of global climate change could alter the thermal profile of some receiving waters making the historical record of thermal conditions less representative of future conditions. Where appropriate, water quality models should take these potential changes into account.

Section 6.2.4.2: Receiving Water Critical Conditions

Receiving Water Upstream Flow

As noted in this section, the receiving water upstream flow is an important factor in modeling the interaction between the effluent discharge and a river or stream. In most instances, state water quality standards or implementation policies establish the critical low flows that should be used in modeling this interaction. The most common source of upstream flow data for water quality modelers is historical flow gage data available through the U.S. Geological Survey. Modelers should be aware that the effects of climate change could alter historical flow patterns in rivers and streams, making these historical flow records less accurate in predicting current and future critical flows. Where appropriate, water quality modelers should consider alternate approaches to establishing critical low flow conditions that account for these climatic changes.

National Pollutant Discharge Elimination System (NPDES) Permit Writers' Manual, USEPA, September 2010, EPA-833-K-10-001. http://www.epa.gov/npdes/pubs/pwm_2010.pdf